

## A PUNCTARIA NEW TO NEW ENGLAND WATERS

WILLIAM RANDOLPH TAYLOR<sup>1</sup>

Several additions to the New England marine flora have of recent years been made by divers, these generally being forms growing rather below the zone where storm waves tear the plants loose and drift them ashore, and possibly are native, possibly introduced. Other additions more certainly represent immigrants from abroad, since they often were first recognized in areas such as that about Woods Hole, Mass., where the shallow water flora has been under close observation for many years. Careful search has shown that these species were not represented in earlier collections, even under misidentifications. When recognized they have generally been found quickly to become frequent or even very common. One can cite *Asparagopsis* and *Trailiella* (now recognized as stages of one species) as being well established examples (Lewis and Taylor 1928, pp. 196, 197), while *Codium* is a new and most aggressive interloper (Taylor 1962, p. 489).

Additions to the records of minute species are to be expected, and adjustments in nomenclature made where some of these are found to be stages in the life histories of larger species, but few native novelties of large species are likely to turn up from shallow water. The variety of *Punctaria* (Phaeophyceae: Punctariales; Punctariaceae) here described seems to be an exceptional one of these.

***Punctaria plantaginea* (Roth) Grev., n. var. *rugosa*:** — Plants very irregular in shape, reaching 1 dm. in width, 3 dm. in length, when mature loose on the bottom. The central portion of the blade is flat or a little undulate, the marginal portions highly crisped or convolute in an irregular band 1-3 cm. in width. The thickness of the blade varies from 4-7 cells and 105-180  $\mu$ , in the central portion usually being 6 cells thick. MASSACHUSETTS: Barnstable

---

<sup>1</sup>I am indebted for the latin diagnosis to Dr. Hannah Croasdale of Dartmouth College. This report covers a small part of a more general study conducted with the aid of Grant GB-3186 from the National Science Foundation, which help is most highly appreciated.

County, Town of Gosnold, Cuttyhunk Island, from Gosnold Pond at the east end of the island in about 3 dm. depth of water. Collected by *W. R. Taylor*, 8 Aug. 1963. Type material in the herbaria of the University of Michigan and the author. Figure 1,  $\times 1.2$ .

***Punctaria plantaginea* (Roth) Grev., n. var. *rugosa*:** — Plantae maturae non affixae, forma irregulares, in centro laminarum fere planae, circum margines late intricateque crispatae convolutaeve. Plantae typicae in lacuna Gosnoldii in insula Cuttyhunk dicta, in urbe Gosnoldii, in comitato Barnstable dicto, Massachusetts, U. S. A., a *W. R. Taylor*, 8 Aug. 1963 lectae, in herbariis Taylorii et Universitatis Michiganensis depositae. Fig. 1,  $\times 1.25$ .

These plants differ so widely from typical material that only when there is close familiarity with both can the relationship be quickly recognized in the field. The typical form of the species appears as flat or slightly undulate



Figure 1. *Punctaria plantaginea* n. var. *rugosa* — A portion of the margin of a thallus from a pressed herbarium specimen, the elaborateness of the convolutions therefore not shown to the best advantage. The margin of the plane center of the thallus shows at the lower center of the photograph.  $\times 1.2$

blades basally attached, usually 2-6 dm. long. These varietal plants are so irregular in outline that it is generally not possible to distinguish length from breadth. They are more fragile than typical individuals, but the thallus color, thickness and texture otherwise conform. It was not practicable at the time the original collection was made to trace the growth stages of these plants, so it is not known at what time they become detached from their presumably firm first substrate. As found they were loose on the somewhat muddy bottom of this tidal pond, in an area probably somewhat brackish and certainly not disturbed by more than the slightest wind ripples, being entirely sheltered from sea waves by the barrier beach.

There is some similarity between this plant and the thinner Alaskan *P. chartacea* Setch. and Gardn. (1924, p. 4), but the marginal fimbriate character of the eastern plant is less spectacular than is the complex wrinkling or, in the sense of the term as applied to the human brain, convolution of the outer areas of the blades. Kützing (1843, p. 299; 1856, p. 18) recognized *Phycolapathum crispatum* from the Adriatic as having a fimbriate margin, but his illustration does not suggest the characters of the plant here described. So far as I am aware Kützing's species has not been transferred to *Punctaria*, and in any case it is doubtful if the New England plant qualifies for species rank.

## LITERATURE CITED

- KÜTZING, F. T. 1843. *Phycologia Generalis, oder Anatomie, Physiologie und Systemkunde der Tänge*. xxxii + 458 + 1 pp., 80 pl. Leipsic.
- . 1856. *Tabulae Phycologicae*. 6: iv + 35 pp., 50 pl. Nordhausen.
- LEWIS, I. F. and TAYLOR, W. R. 1928. Notes from the Woods Hole Laboratory, 1928. *Rhodora* 30: 193-198. Pl. 176 and 5 text-figs.
- SETCHELL, W. A. and GARDNER, N. L. 1924. *Phycological Contribution, VII*. Univ. Calif. Publ. Bot. 13(8): 1-13.
- TAYLOR, W. R. 1962. *Marine Algae of the Northeastern Coast of North America*. viii + 509 pp., 60 pl. Edit. 2, 2nd printing with additions. University of Michigan Press, Ann Arbor.

WM. RANDOLPH TAYLOR  
DEPARTMENT OF BOTANY  
UNIVERSITY OF MICHIGAN  
ANN ARBOR, MICHIGAN 48104